

student's armoury. Such, for example, are the two chapters on the classification of compounds.

The treatment throughout is simple and lucid, and there is nothing that is likely to puzzle or mystify a reader. The contents will give him a good, useful store of information relating to the theoretical side of chemistry, though it will be meagre on the topics which have come to the front during the last twenty years, and to which, in a mere revision, it has scarcely been possible to do justice. In some cases the faults pass beyond those of omission, as in the confusion between dissociation and hydrolysis on p. 172, the account of "palladium hydride" on p. 171 and the definition of cryohydrates on p. 255. A. S.

Marvels of the Universe. A Popular Work on the Marvels of the Heavens, the Earth, Plant Life, Animal Life, the Mighty Deep. By various authors. In about twenty-four fortnightly parts. Part i., pp. 48. Part ii., pp. 48. (London: Hutchinson and Co., n.d.) Price 7d. net each part.

Of the attractiveness of this serial publication it would be difficult to write too highly. Each part contains four full-page illustrations in colour, remarkable alike for their beauty and accuracy, and a profusion of excellent pictures in black and white, most of which are from photographs.

The contributors are well-qualified authorities on the subjects they have undertaken, and what they have written is appropriate to the work. The selection of topics has been guided entirely by what is likely to arrest the attention of the non-scientific general reader, with the result that instead of an orderly introduction to science, we have a series of short, bright views of some of the wonders of nature, arranged in no logical sequence, but partaking of the character of a scientific scrap-book, using the term to express disjointedness rather than depreciation.

Unrelated as the articles are, they may serve a very useful purpose and succeed in attracting readers to the more serious study of some science in which they will be led themselves to observe and record what is happening in the world around them, as well as to take an interest in the explorations of others.

LETTERS TO THE EDITOR.

[The Editor does not hold himself responsible for opinions expressed by his correspondents. Neither can he undertake to return, or to correspond with the writers of, rejected manuscripts intended for this or any other part of NATURE. No notice is taken of anonymous communications.]

The Scientific Misappropriation of Scientific Terms.

WHILE fully sympathising with Prof. Gregory in his condemnation of the scientific misappropriation of popular terms, and, indeed, objecting to the scientific *appropriation* of such terms where it would be better to employ a universally intelligible technical language, still, it seems to me that even more deserving of condemnation is the misappropriation by one group of scientific workers of the scientific terms used by another group. This procedure is the more objectionable when the two groups of workers are in adjoining fields. It does not greatly hurt anyone that an astronomer should mean by an "asteroid" something quite different from that which a zoologist means; but it does matter when one biologist uses a term in a different sense from another biologist.

Of late years some of us have felt driven to protest against Prof. H. de Vries's use of the term "mutation" in a sense differing in an apparently trivial, yet philosophically important, way from the use of the term by its original inventor—the palæontologist Waagen. Now we find the followers of Prof. de Vries, notably Prof. Johanssen, robbing the systematic biologists of their term "genotype." First proposed by Prof. C. Schuchert in

1897, this term has come into very general use to denote the type-species of a genus. There has been in the past so much confusion between the different senses of the word "type," and this confusion has given rise to so much regrettable confusion of thought, that this latest malappropriation should only need pointing out to be at once stopped. Unfortunately, this simple action has not had the desired effect, and therefore I am impelled to make a protest in your widely read pages. F. A. BATHER.

Wimbledon, November 2.

The Electro-vegetometer.

EXPERIMENTS with electricity as a stimulant to plant growth were made with alleged success 165 years ago, when Mr. Maimbray, of Edinburgh, electrified two myrtles throughout October, 1746, for several hours a day, with the consequence that next summer they blossomed sooner than their neighbours (Priestley's "History of Electricity," part viii., sec. 4).

Shortly after this the Abbé Nollet made similar experiments with electrified seeds in pots, and claimed equally successful results. M. Achard, of Berlin, and other independent observers confirmed the experiments; and the beneficial effect of electrification on plant life was almost an accepted discovery when a Dr. Ingenhousz, after exhaustive experiments, completely refuted all the conclusions hitherto arrived at, and proved that the only effect of electrification was to hinder plant life!

Dr. Carmoy and the Abbé Ormoy later resumed the investigation, and testified to favourable results.

Next the Abbé Berthelon reconciled these divergent conclusions by announcing that electricity in a moderate application was beneficial, but could be applied in excess with harmful results; and he advocated as the safest method the utilisation of atmospheric electricity, which he said rarely rose to a strength injurious to the most delicate plant. He published a suggestion, recently credited by Sir William Ramsay as a new and ingenious theory of Sir Oliver Lodge's, that the pointed leaves of plants acted as conductors of atmospheric electricity, and were an important factor in the prolific vegetation of forests.

The Abbé Berthelon, who utilised both natural and artificial electrification, devised what he called the "electro-vegetometer," which consisted of an insulated series of sharp iron points projecting vertically upwards at a mast-head and connected by chains with similar iron points pointing downwards just over the plants to be experimented on. He states that "the happiest effects were perceived, viz. different plants, herbs, and fruits in greater forwardness than usual, more multiplied, and of better quality."

Until lately all these alleged successes were supposed to have been imaginary; and the question is, Will the recent experiments prove that there was more in the earlier ones than has been supposed, or will the present trials turn out to be, with their predecessors, further examples of myths of science, like the Blondlot rays and Mrs. Somerville's supposed discovery of a magnetising power in solar light? CHARLES E. BENHAM.

Colchester, November 5.

November Meteor-showers.

THE early part of November does not present anything very noteworthy as regards meteoric phenomena, which may be said to begin about November 9, the following being the principal meteor-showers of the month:—

Epoch November 9, 6h. (G.M.T.), first order of magnitude. Principal maximum, November 11, 0h. 30m.; secondary maxima, November 9, 11h. 50m., and November 10, 10h. 40m.

Epoch November 10, 15h. 30m., twenty-second order of magnitude. Principal maximum, November 11, 11h. 30m.; secondary maxima, November 11, 19h. 20m., and November 12, 7h. 40m.

Epoch November 13, 16h., thirtieth order of magnitude. Principal maximum, November 14, 22h. 50m.; secondary maxima, November 15, 9h. 30m., and November 16, 13h. 15m. and 17h. 30m.

Epoch November 16, 10h., thirteenth order of magnitude. Principal maximum, November 15, 21h. 10m.; secondary maximum, November 15, 7h. 15m.

Epoch November 17, 3h. 30m., tenth order of magnitude. Principal maximum, November 17, 17h. 25m.; secondary maxima, November 17, 23h. 30m., and November 18, 5h. 5m.

Epoch November 17, 15h. 30m., approximately sixth order of magnitude. Principal maximum, November 19, 12h. 55m.; secondary maxima, November 18, 15h. 15m., and November 19, 22h. 10m.

Epoch November 24, 2h. 30m., approximately fourth order of magnitude. Principal maximum, November 23, 5h. 30m.; secondary maxima, November 22, 15h. 20m. and 18h. 20m.

Epoch November 25, 4h. 40m., eighteenth order of magnitude. Principal maximum, November 24, 2h. 35m.; secondary maxima, November 24, 12h. 40m. and 23h. 10m.

It is significant that, of the eight principal epochs of the month, no fewer than six fall due during the period of November 9-20. This, therefore, is the part of the month richest in meteoric events. The two remaining epochs of November 24-25, though nominally strong, do not rank in importance with the foregoing six.

Of these six there are three that call for special mention. The first, commencing on November 9, has the highest meteoric intensity of the month; but the epoch of November 17, 3h. 30m., may prove to be the most interesting, as it bears a certain resemblance to the epoch of November 15, 1905, and in the writer's opinion is liable to be associated with auroral phenomena. The small intermediate epoch of November 13, 16h., is the only one that places maxima between 12h. and 18h. on any of the three nights November 14-16, two of its secondary maxima becoming due between these hours on the night of November 16. The general Leonid maximum will therefore probably be best observed on the night of November 16, but late members of this well-known star shower are likely to be strongly in evidence also on the following night.

JOHN R. HENRY.

2 Belgrave Villas, Rathmines, Dublin, November 6.

Tick (Ixodoidea) Generic Names to be included in the "Official List of Zoological Names."

(1) THE international committee invited by the secretary of the International Commission on Zoological Nomenclature to make a detailed study of the nomenclature of ticks (Ixodoidea), and consisting of the following specialists in this group, W. Dönitz (Berlin), Albert Hassall (Washington), L. G. Neumann (Toulouse), G. H. F. Nuttall (Cambridge), and Cecil Warburton (London), has submitted its first report.

(2) Said committee unanimously agrees that the following eight generic names are the correct names for the genera in question, and that the correct genotypes, according to the international rules of zoological nomenclature, are the species cited:—

Amblyomma Koch, 1844a, 223-231, type *cajennense* Fabricius, 1787.

Argas Latreille, 1796a, 178, type *reflexus* Fabricius, 1794.

Dermacentor Koch, 1844a, 235-237, type *reticulatus* Fabricius, 1794.

Haemaphysalis Koch, 1844a, 237, type *concinna* Koch.

Hyalomma Koch, 1844a, 220-223, type *aegyptium* Linnaeus.

Ixodes Latreille, 1796a, 179, type *ricinus* Linnaeus.

Rhipicentor Nuttall and Warburton, 1908, 398, type *bicornis* Nuttall and Warburton.

Rhipicephalus Koch, 1844a, 238, 239, type *sanguineus* Latreille.

(3) Notice is hereby given that the undersigned will wait until May 1, 1912, for any zoologist to raise any objection to any part of the report of the special committee. If no valid point is raised by the date mentioned, the undersigned will transmit the list to the International Commission with the motion that these names be incorporated in the "Official List of Zoological Names" provided for by the last International Zoological Congress.

All correspondence on this subject should be directed to

C. W. STILES.

(Secretary International Commission on Zoological Nomenclature.)

Hygienic Laboratory, Washington, D.C., October 30.

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Localising Minute Leaks in Vacuum Apparatus.

IN view of the fact that in many branches of physical research there has arisen of late years the necessity for complicated apparatus to be kept at a high state of exhaustion, it may interest your readers to hear of a simple method of localising minute leaks.

In the case of leaks in "all glass" apparatus, I have for many years used with success Goldstein's spark method. This consists in disconnecting the kathode lead from the apparatus, putting in a small alternate spark-gap, and exploring over the suspected joints with the loose lead until a brilliant discharge to the inside of the apparatus indicates the position of the leak. The objections to this method are that if parts of the glass are very thin a hole may be made where none previously existed; it obviously cannot be used near a terminal, or at all with a "wax" joint.

An apparatus of mine involving seven distinct and complex sealing-wax joints recently developed a microscopic leak of about 1/100 mm. per hour. Being faced with the alternative of pulling the whole apparatus down and remaking every joint, it occurred to me that the extremely sensitive nature of the discharge in air to change its colour when in the presence of carbon compounds (it is, in fact, by the change from the grey of CO to the crimson of N that leaks are generally first seen) might be used with advantage. I therefore wiped each joint over with a small pad of cotton-wool soaked in petrol, keeping the discharge going meanwhile, and the instant the real offender was reached—a "metal-wax-glass" joint in this case—the discharge turned abruptly from red to blue. The method seems extraordinarily delicate, and should be applicable to all cases of air leak so long as the latter is not so large as to prevent the discharge passing.

F. W. ASTON.

Cavendish Laboratory, Cambridge, October 31.

Multiple Rainbows.

ON Tuesday morning last, October 31, a succession of rainbows of extraordinary brilliance was visible here. The most brilliant appeared at 8.45 a.m., and lasted about five minutes.

The sun was shining brilliantly, and the atmosphere to the east was remarkably clear, while the rain-storms came up from the Bristol Channel, eight miles to the west. At 8.45 a.m. six rainbows were visible, three inside the main bow and very close to it, the colours being in the same order as those on the main bow, and two outside, the colours of the first being in reversed order, while the second was faint, and nearly white. Four of the rainbows were quite perfect, but the innermost of the three internal bows was partly broken, only three-quarters being visible. About one-third of the extreme outer bow was visible.

E. NEWBERRY.

Sidcot School, Winscombe, Somerset, November 6.

Dangerous Mixtures.

I SHOULD like to direct attention to the dangerous nature of a mixture consisting of magnesium powder and silver nitrate.

When a small quantity (2 to 3 grams) of magnesium powder is mixed with an equal bulk of powdered silver nitrate in a metal dish, and then from the end of a long glass rod a drop of water is allowed to fall on the mixture, a slight explosion occurs, accompanied by a vivid flash.

The unexpected violence of this reaction led to serious burns in my own case.

Mercuric nitrate when substituted for silver nitrate also reacts vigorously with magnesium powder under the same conditions, brown fumes, but no flash, being produced. With barium nitrate the action is slight, heating only appearing to take place.

HAROLD CALAM.

The University, Leeds, October 27.